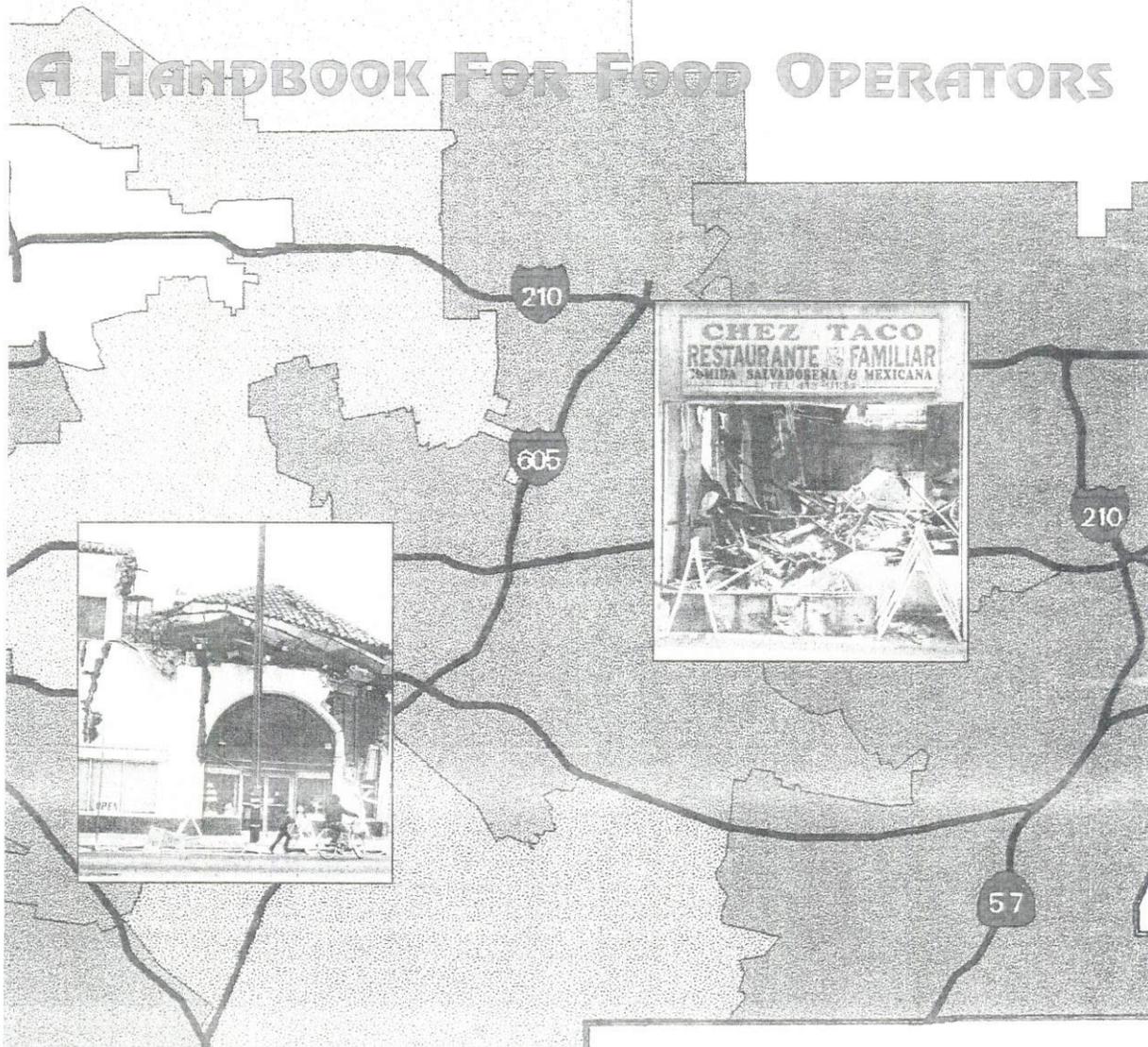


# DISASTER RECOVERY

## A HANDBOOK FOR FOOD OPERATORS



# INTRODUCTION:

---

A disaster can have a dramatic impact upon a food service establishment. Damage that effects an establishment can also affect the safety of its food. What can a food service operator do to ensure that the food offered from his or her establishment is safe?

This handbook is intended to assist the operator in answering that question by providing an easy-to-read handbook and checklist. This handbook will serve as an important tool for the food service operator for preparation before and recovery following disasters that often occur without warning.

Numerous disasters have occurred within Los Angeles County during the past 10 years. The Whittier Earthquake of 1987, the Los Angeles Civil unrest of 1992, the Northridge Earthquake of 1994 and the Floods of 1995 are prime examples of the various types of disasters that occur.

Based on a survey of food service operators in the San Fernando Valley and Santa Monica Area who were confronted with post-disaster problems following the Northridge Earthquake, it was found that food operators were highly concerned with guidelines and recommendations which would protect the public health, minimize risk to employees as well as reduce food loss and speed recovery of the establishment.

Although results were based on effects of the Northridge Earthquake, consequences of disasters herein can be relative to any given episode. For example, during or after a disaster, water safety can be compromised. A large scale earthquake cannot only damage water treatment plants, but can cause breaks in water lines thus leading to contamination of the water supply. Floods and fires can also cause similar devastating outcomes. Following any given disaster, rodent and insect problems could increase. Heavy accumulations of refuse may provide food and areas for harborage for these unwelcome guests. These conditions can also greatly affect food establishments.

This handbook, focuses upon overall facts relating to the most common types of disasters and suggested techniques to guide the food operator through the time consuming and in many instances, difficult phase of disaster recovery. It is intended to serve as a tool for assistance in regaining operation quickly and safely.

Key words have been defined for each category. This information has been provided to assist the reader in understanding the content of a particular word or phrase as it relates to that subject.

The key words will also serve as an introduction into separate categories.

# INTRODUCTION:

---

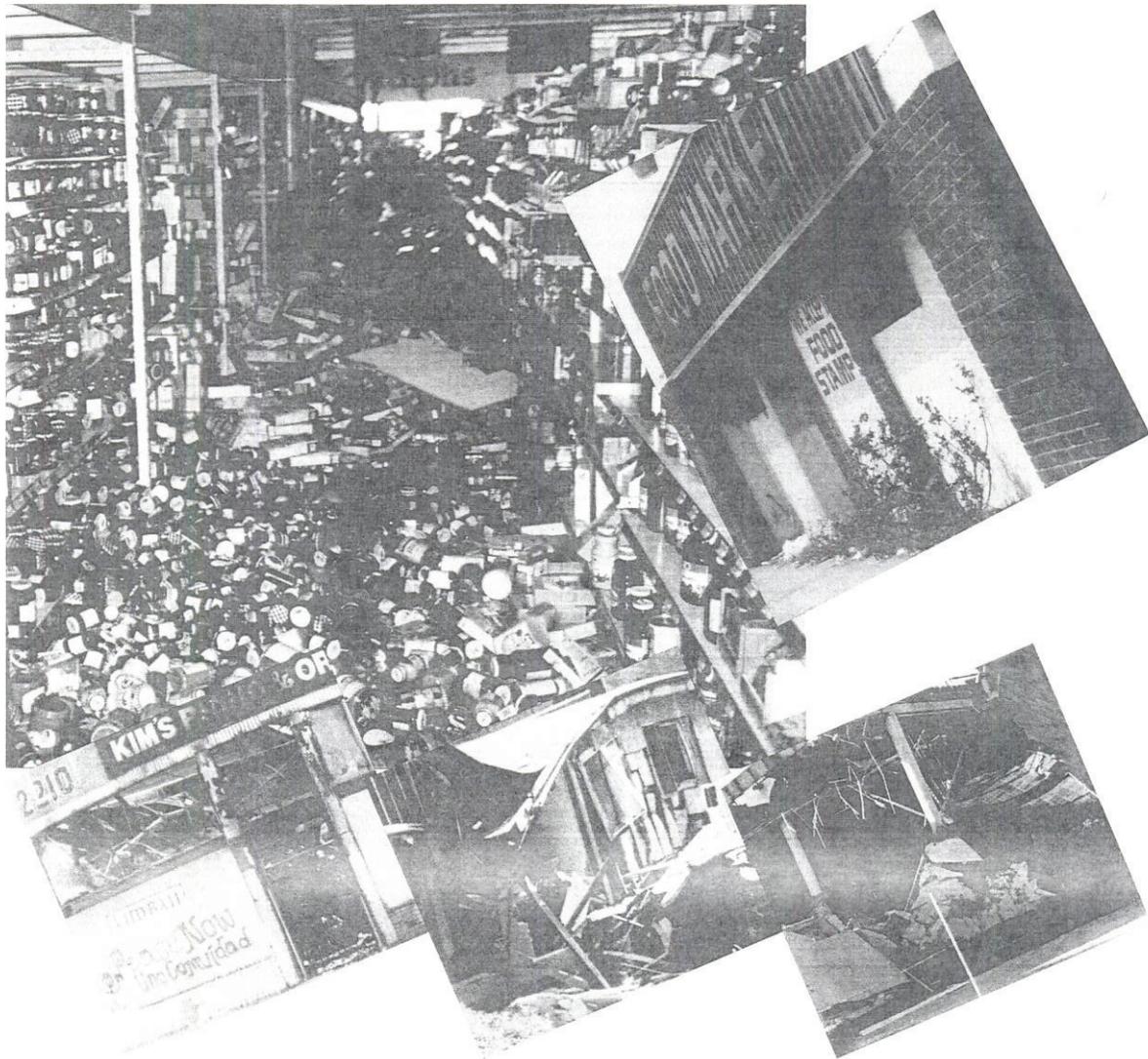
Section I begins with disasters. Fires are the most common disaster within the food service industry, however earthquakes are the most devastating with the potential for structural damage and destruction from both fire and flooding. In addition to describing likely outcomes of the most familiar disasters, steps have been outlined which may be taken to ensure food service and personnel safety before entering the establishment. Once inside the establishment and the recovery process has begun, procedures have been identified which should be followed to restore operation. As additional tools, an emergency telephone list and recovery checklist have been developed. Upon completion, the telephone directory will provide instant access to necessary services. The recovery checklist may be utilized to assist the operator in confirming proper operational conditions prior to any inspections by an Environmental Health Team Member. In the event that the establishment is not fully operable as it relates to the recovery checklist, it is recommended that the recovery process be continued prior to resuming food service to the public. Section I provides suggestions on activities that may be done during this time.

Preparation is the best way to minimize damage and speed recovery following a disaster. Training staff, developing emergency procedures and conducting drills could prove valuable in sudden misfortunes. Preparation is the best way to minimize damage and speed recovery following a disaster. Section I also includes tips for earthquake preparedness and safety.

Section II focuses upon various concerns which may be a result of any given disaster. Specific steps that can be taken in order to effectively resolve specific problems are discussed in detail. During past disasters, many food service operators had questions on the proper procedures for determining food safety. Section II briefly addresses this issue and offers guidelines on when to consider salvaging, reclaiming cost or disposing foods affected in disastrous situations.

Due to the nature of natural disasters, it is impossible to predict what will happen in all situations. The advice printed in this handbook has been developed with as much forethought as possible. In order to guarantee successful recovery following unforeseen circumstances, it is strongly recommended that the food service operator meet or exceed these guidelines.

The goal of the food service operator is to recover successfully and safely provide food service to the public. One of the goals of the Environmental Health Division is to provide information to the food service operator so that safe food is provided. In the event of a disaster, this handbook will assist both entities in accomplishing these goals.



# CONTENTS

## SECTION I. DISASTERS



<b>DISASTERS</b>	Key Words .....	7
	Fire .....	8
	Floods .....	11
	Earthquake .....	14
	Behind Closed Doors .....	20

## SECTION II. INSTRUCTIONAL HANDBOOK



<b>WATER</b>	Key Words .....	22
	Checklist .....	23
	Treatment .....	24
	Restoration .....	27

<b>FOOD</b>	Key Words .....	29
	Refrigerated Foods .....	30
	High Risk Foods .....	33
	Damaged Foods .....	34

<b>WATER, GAS, AND POWER</b>	Key Words .....	37
	Utilities .....	38

<b>SEWAGE</b>	Key Words .....	39
	Sewage .....	40

<b>TRASH AND GARBAGE</b>	Key Words .....	41
	Refuse .....	42
	Unwelcome Guests .....	43

<b>ACKNOWLEDGEMENTS</b>	Listing .....	44
-------------------------	---------------	----

# SECTION I DISASTERS

*“Section I begins with disasters. Fires are the most common disaster within the food service industry, however earthquakes are the most devastating with the potential for structural damage and destruction from both fire and flooding. Floods may be a devastating outcome of fires, earthquakes or some other unforeseen circumstance.”*

# DISASTERS: KEY WORDS



**UNSAFE:** Hazardous to human health and safety

**FILTER:** A device that can remove some chemicals and small particles

**TREATED WATER:** Water from which some chemicals, minerals, or bacteria have been removed

**HOT WATER:** Water with a temperature of 120°F or above

**SINGLE SERVICE DISHWARE/UTENSILS:** Disposable spoons, forks, knives, bowls, plates, and cups to be used only once

**CROWN-CAPPED BOTTLES AND JARS:** Containers that require a bottle or can opener to remove cap

**SCREW-TOPPED BOTTLES AND JARS:** Containers that have a screwable cap or lid

**CORK-TOPPED BOTTLES AND JARS:** Containers sealed with a cork stopper

**POTABLE WATER:** Water safe for human consumption and food preparation

**FOOD CONTACT SURFACES:** Areas on food preparation tables, equipment, or utensils that are likely to touch food

**CHAIN OF COMMAND:** Order of responsibility from owner/management to employee

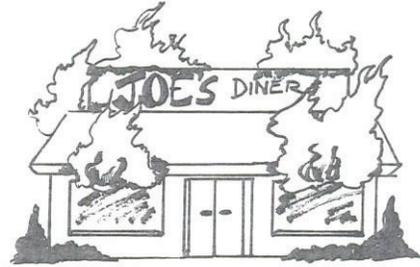
**PROBE THERMOMETER:** An instrument used to measure internal temperatures of foods

**RESIDUE:** A deposit of dust, soot, liquid or film which may form or collect on a surface

# DISASTERS: FIRE



*After a fire, the establishment needs to be visually surveyed by the operator. Fire causes damage to structures, utilities and ventilation equipment. A fire can damage utility lines and prevent service to refrigeration and freezer units, placing foods stored within them at risk. Also with fires, harmful chemical surface*



*contaminants (i. e., films, coatings, and residues) may be on food contact surfaces and equipment. These contaminants may be soot or dust fibers or may even be invisible. The contaminants can become airborne and travel great distances within the establishment; therefore, it is important to clean and sanitize all surfaces exposed to harmful chemicals.*

## BEFORE YOU ENTER . . .

- Check exterior structure for damage.
- Contact the fire department if safety of the interior structure is questionable.

## WHEN IT IS SAFE TO ENTER . . .

### CHECK:

- Potable water supply.
- Electrical power supply.
- Functional sewer system.
- Natural gas supply.
- Safety of structure.

# CHECK

### REMOVE:

- All foods exposed to fire, fire debris, fire retardant, smoke, water or damage due to fire.
- All high risk foods with temperatures between 41°F and 140°F (see High Risk Food List on page 33).

# REMOVE

# DISASTERS: FIRE

KEY  
WORDS



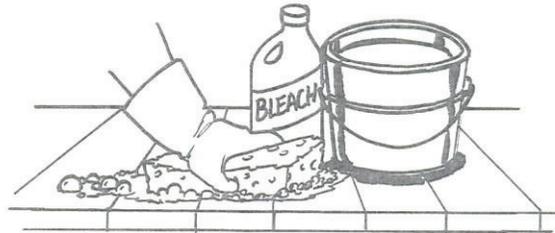
## EVALUATE:

- All food and food items damaged by fire.
- Contact your insurance company and/or licensed food salvager for review and evaluation on possible recovery of costs.

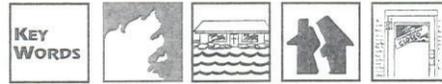
## CLEAN AND SANITIZE THROUGHOUT THE FACILITY:

- All food contact surfaces.
- All utensils.
- All dishes and glassware.
- All exterior surfaces of equipment.
- All walls, floors, and ceilings.
- All hood surfaces and hood filters.
- All work stations and customer tables.
- All equipment air intakes.
- All ventilation ducts.

When a disaster causes damage which results in a lack of potable hot and cold water, proper sewage disposal, lack of utility services, structural damage affecting the food service areas, or extensive contamination by insects, rodents, dust or debris, *it is advised that you discontinue food service until such time that corrections are made and safe food service is restored.*



# DISASTERS: FIRE

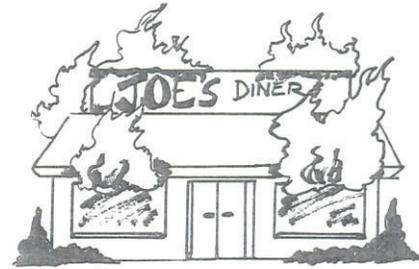


## BEFORE OPENING FOR BUSINESS . . .

*If the establishment intends on resuming food preparation and also selling prepackaged foods. . .*

### VERIFY THE FOLLOWING:

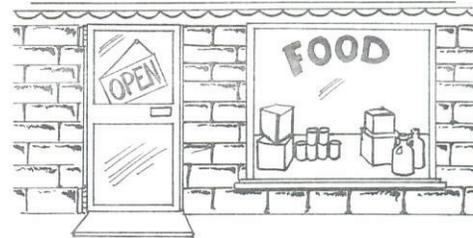
- Provisions for hot and cold potable water are available.
- Provisions for handwashing are available.
- Provisions for toilets are available.
- Electricity and natural gas (if applicable) services are available .
- Refrigeration and/or freezer units are capable of maintaining food temperatures of 41°F. or below.
- Hot food holding units are capable of maintaining food temperatures of 140°F. or above.
- Damaged foods have been removed from sale.
- All food can be protected from contamination.
- Rodent and insect infestations do not exist.



*If the establishment intends on selling only prepackaged foods that do not require refrigeration or heating . . .*

### VERIFY THE FOLLOWING:

- Damaged food has been removed from sale.
- All food can be protected from contamination.
- Rodent and insect infestations do not exist.
- Provisions for handwashing are available.
- Provisions for toilets are available.



# DISASTERS: FLOOD



*After a flood, the water supply may become contaminated with sewage, silt, chemicals, and debris. These impurities can affect the health of persons living in the affected areas. Floodwater may also carry these contaminants into homes, businesses, and food establishments. Tap water should not be considered potable until it is verified safe by the local water or health department. The following steps should be taken to ensure the public's safety.*

## BEFORE YOU ENTER . . .

- Wait for floodwater to recede.
- Check exterior structure for damage.



## WHEN IT IS SAFE TO ENTER . . .

### CHECK:

- For any risks to personal safety.
- All water, drain, and sewer lines for damage. Make repairs if necessary.
- Floor sinks and drains for stoppage.

### FLUSH:

- All water lines and equipment connected to the main water supply (e.g., drink dispensers, ice makers, faucets, etc.) for 5 minutes.
- Equipment drain lines over floor sinks. This must be done from the interior of the equipment.

### CLEAR:

- Any stoppage of floor sinks and drains.

### REPLACE:

- All water filters attached to equipment and connected to the main water supply.

# DISASTERS: FLOOD



## REMOVE ALL FOOD AND FOOD CONTAINERS THAT WERE IMMERSSED IN FLOODWATER INCLUDING:

- Crown capped bottles and jars
- Cork topped bottles and jars (e.g., wine bottles)
- Screw topped bottles and jars.
- Food packaged in bags constructed from absorbent materials (e.g., paper, burlap, linen)
- Cardboard cartons
- Canned foods

## EVALUATE ALL FOOD ITEMS WHICH HAVE BEEN IMMERSSED IN FLOOD WATER:

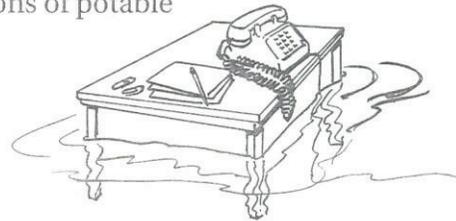
- Contact your insurance company and/or licensed food salvager for review and evaluation on possible recovery of costs.

## CLEAN AND SANITIZE:

- Floors
- Floor sinks
- Furniture
- Floor drains
- Utensils/Silverware
- Dishware
- Food Contact Surfaces

## RECOMMENDATIONS:

- Use a diluted bleach solution of 2 oz. bleach in 5 gallons of potable water and rinse with clear potable water.
- Use single service (e.g., paper or plastic) utensils and dishware until cleaning and sanitization procedures have been completed.
- Notify the local Environmental Health Division before reopening the establishment for business.
- Keep a supply of sand bags for establishments within flood prone areas.



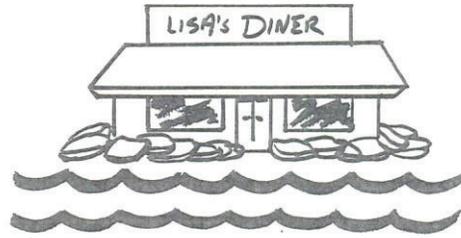
When a disaster causes damage which results in a lack of potable hot and cold water, proper sewage disposal, lack of utility services, structural damage affecting the food service areas, or extensive contamination by insects, rodents, dust or debris, *it is advised that you discontinue food service until such time that corrections are made and safe food service is restored.*

# DISASTERS: FLOOD



## BEFORE OPENING FOR BUSINESS . . .

*If the establishment intends on resuming food preparation and also selling prepackaged foods.*



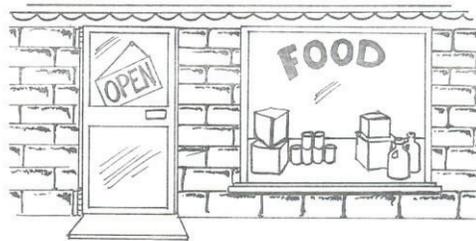
### VERIFY THE FOLLOWING:

- Provisions for hot and cold potable water are available.
- Provisions for handwashing are available.
- Provisions for toilets are available.
- Electricity and natural gas (if applicable) services are available.
- Refrigeration and/or freezer units are capable of maintaining food temperatures of 41°F. or below.
- Hot food holding units are capable of maintaining food temperatures of 140°F. or above.
- Damaged foods have been removed from sale.
- All food can be protected from contamination.
- Rodent and insect infestations do not exist.

*If the establishment intends on selling only prepackaged foods that do not require refrigeration or heating . . .*

### VERIFY THE FOLLOWING:

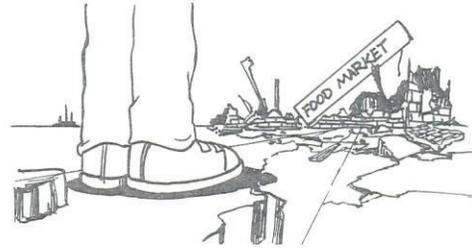
- Damaged food has been removed from sale.
- All food can be protected from contamination.
- Rodent and insect infestations do not exist.
- Provisions for handwashing are available.
- Provisions for toilets are available.



*After an earthquake, several types of problems can be anticipated. Damage to food, structure, utilities, the water supply, and equipment can be extensive. Fire and water damage can also occur. Rodents and insects may also be a concern.*

## BEFORE YOU ENTER . . .

- Look for any warning signs that may have been placed on site by the local building department.
- Follow any instructions on the warning sign (if one has been posted).
- Visually inspect the exterior of the establishment for any evidence of damage (e. g., collapsed walls, wall openings, signs of flooding from within the establishment).



## WHEN IT IS SAFE TO ENTER . . .

### CHECK FOR:

- Any risks to personal safety.
- Availability of hot and cold potable water.
- Functional plumbing.
- Available electricity.
- Natural gas odor.
- Natural gas supply.
- Food temperatures of all high risk foods.
- Refrigeration and freezer function.
- Damage from fire, water, or plumbing leaks.
- Structural damage.
- Presence of rodents or insects.

# CHECK



## REMOVE

- Damaged and unsalvageable canned, bottled, and prepackaged food.
- Damaged or contaminated produce.
- High risk foods with temperatures between 41°F. and 140°F.
- Foods contaminated by foreign matter.

## EVALUATE

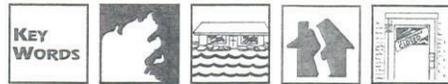
- Canned, bottled, and prepackaged food for damage.
- Possible contamination of exposed food, including produce.

*Contact your insurance company or a licensed food salvager for additional information regarding these items.*

## CLEAN & SANITIZE

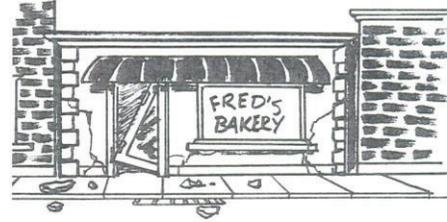
- Food contact areas.
- Surfaces contacted by sewage, water or fire damage, dust, chemicals, water leakage, or food spillage.
- Utensils.
- Food preparation, or storage equipment.

When a disaster causes damage which results in a lack of potable hot and cold water, proper sewage disposal, lack of utility services, structural damage affecting the food service areas, or extensive contamination by insects, rodents, dust or debris, *it is advised that you discontinue food service until such time that corrections are made and safe food service is restored.*



## BEFORE OPENING FOR BUSINESS . . .

*If the establishment intends on resuming food preparation and also selling prepackaged foods.*



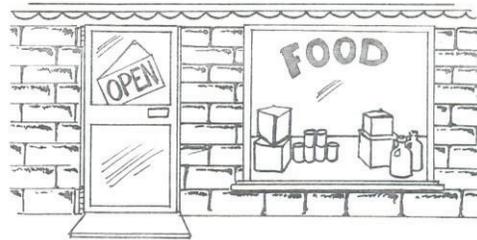
### VERIFY THE FOLLOWING:

- Provisions for hot and cold potable water are available.
- Provisions for handwashing are available.
- Provisions for toilets are available.
- Electricity and natural gas (if applicable) services are available.
- Refrigeration and/or freezer units are capable of maintaining food temperatures of 41°F. or below.
- Hot food holding units are capable of maintaining food temperatures of 140°F. or above.
- Damaged foods have been removed from sale.
- All food can be protected from contamination.
- Rodent and insect infestations do not exist.

*If the establishment intends on selling only prepackaged foods that do not require refrigeration or heating . . .*

### VERIFY THE FOLLOWING:

- Damaged food has been removed from sale.
- All food can be protected from contamination.
- Rodent and insect infestations do not exist.
- Provisions for handwashing are available.
- Provisions for toilets are available.

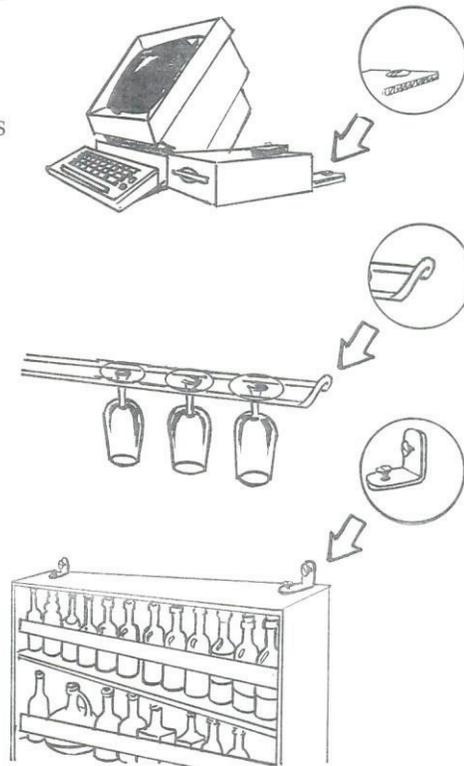


*A major earthquake will not affect everyone equally. There may be many buildings that will suffer little or no damage, yet other establishments will be severely affected.*

## **PREPAREDNESS IS THE FIRST LINE OF DEFENSE.**

### **TIPS TO HELP PREVENT DAMAGE TO YOUR ESTABLISHMENT:**

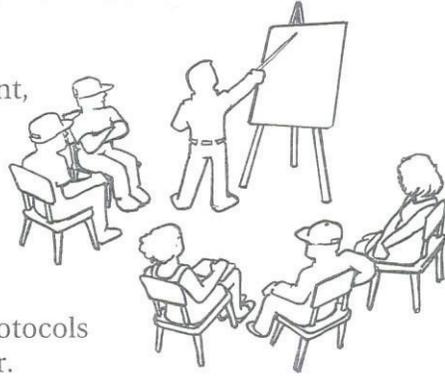
- Secure, brace and/or anchor furniture and appliances to prevent them from falling or striking your staff or patrons.
- Secure directly to the wall large mirrors, water heaters and other objects that can be especially dangerous.
- Secure with screws, **DO NOT USE NAILS.**
- Secure radios and computer equipment firmly to the furniture or to the wall.
- Screw overhead glassware racks firmly into the service counter frame. Tilt-up row openings or stoppers will prove to be an extra advantage.
- Secure tall furniture by using angle brackets fastened to studs with lag screws.





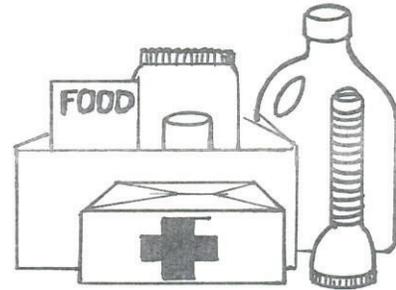
## BEFORE THE BIG ONE PREPARE FOR THE NEXT ONE

- Identify locations of gas, water and electrical shut off controls. Unless gas is leaking inside the establishment, gas should not be shut off.
- Identify a chain of command for staff to follow in case the owner or manager is not available. A decision maker should always be available for staff.
- Train all staff in the procedures to follow during and after an earthquake.
- Verify employees' understanding of directions and protocols to be followed in case of absence of owner or manager.
- Maintain current employee records and emergency contact telephone numbers.

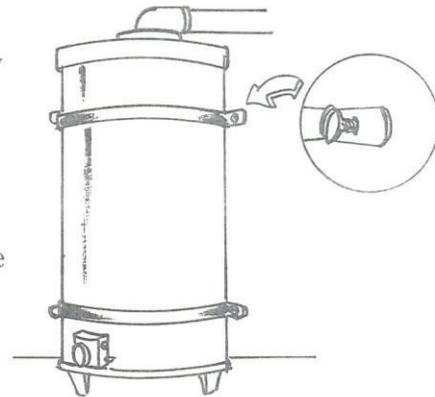
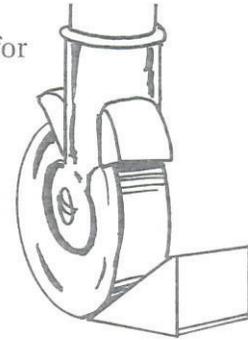


### MAINTAIN INVENTORY OF EMERGENCY SUPPLIES:

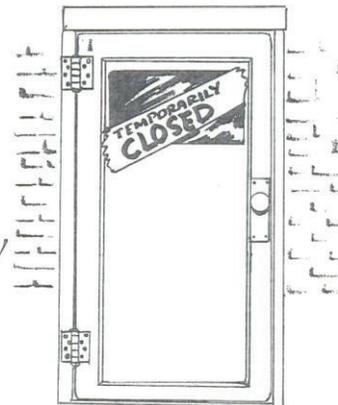
- Bleach
- Commercially bottled water
- First aid handbook and supplies
- Medicine dropper
- Fire extinguisher
- Water purification tablets
- Measuring spoons
- 4-6 mil heavy duty plastic bags
- Portable radios
- Extra flashlights
- Extra batteries
- Probe thermometer



- Discourage storage of items on or above suspended ceiling grids.
- Provide shatterproof light shields to all light fixtures; use end caps for all fluorescent light tubes.
- Secure brakes on all castered equipment.
- Place removable blocks in front of casters to prevent movement, when casters have no brakes (blocks must be moisture resistant, easily cleanable and in good condition).
- Discourage overhead storage of fragile items, especially glassware.
- Discontinue storage of heavy items on high shelving where they may topple.
- Elevate all stored items at least 6 inches above floor (elevation may help in avoiding flood or water back-up damage).
- Store chemicals away from all foods.
- Identify and reduce high risk areas (dining-rooms with burning candles, chandeliers, large mirrors and windows, areas with overhanging equipment, etc.).
- Keep all fire suppression equipment in good working order.
- Secure water heater to wall studs, not just to plaster or plaster boards.
- Secure CO<sub>2</sub> tanks, using a link chain, to wall studs or other immovable objects.
- Develop evacuation plans and place them in areas easily seen by customer and staff.
- Maintain all evacuation pathways clear of obstructions.
- Install a supply of battery-operated temporary lighting.
- Consider the use of portable power generators (contact your local Building and Safety Department regarding the safe use and proper storage of these units).

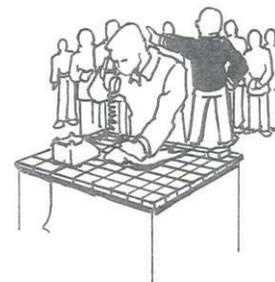


*When a disaster causes damage which results in a lack of potable hot and cold water, proper sewage disposal, lack of utility services, structural damage affecting the food service areas, or extensive contamination by insects, rodents, dust or debris, the advice of the Environmental Health Officer may be to discontinue food service until such time that corrections are made and safe food service is restored. In the event of temporary closure . . .*



## DO OBTAIN PROFESSIONAL SERVICES FOR:

- Repairs
- Pest control
- Cleaning (in the event of asbestos or chemical contamination)



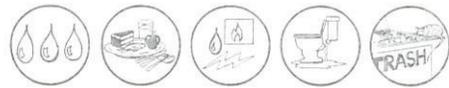
## DO UTILIZE CLOSURE TIME WISELY:

- Catch up on general cleaning (floors, walls, shelving, equipment, etc.).
- Restock shelving.
- Plan marketing strategies.
- Survey food and equipment inventory and operation.
- Provide employee food safety education updates.
- Consider the sale of safe canned or prepackaged foods.



## DO NOT:

- Rely on temporary repairs.
- Resume any preparation service or sale of food unless the facility is fully operable and authorization has been granted by the Environmental Health Division in your area.



---

# SECTION II INSTRUCTIONAL GUIDE

*“Section II focuses upon various concerns which may be a result of any given disaster. Specific steps that can be taken in order to effectively resolve specific problems are discussed in detail. During past disasters, many food service operators had questions on the proper procedures for determining food safety.”*

# **WATER:** KEY WORDS



**OPAQUE:** Not letting light pass through, such as a container that is not clear

**EXTERIOR:** The outside area of an establishment or a outer area of a food container

**POTABLE WATER:** Drinkable water for human consumption and food preparation

**CHLORINATED SANITIZING SOLUTION:** Mixture of 2 ounces of bleach per 5 gallons of water

**DISINFECTION PROCESS:** Removal of germs from water

**PURIFICATION TABLETS:** Tablets used to make water safe and drinkable

**DISINFECTANT:** A chemical used to remove germs

**DILUTE:** To make thinner by mixing with water or other liquid

**SANITIZE:** To remove germs by means of boiling or adding additional chemicals

**SLUSH MACHINES:** A machine that serves a crushed ice and flavored water mixture



*In a major disaster such as a large earthquake, water lines and water treatment plants could suffer damage. Potable water must be provided for the public to prevent outbreaks of waterborne diseases. Following any disaster . . .*

## **ASSUME THAT WATER IS UNSAFE !!!**

- Do not use tap or untreated water for human consumption.
- Turn off water service valves to beverage/soda dispensers and slush machines.
- Turn off water service valves to ice machines.
- Turn off water service valves to coffee and tea machines.
- Turn off water service valves to cappuccino and iced tea brewing machines.
- Turn off water service valves to all water processing units (e.g., water softening units).
- Turn off water service valves to all water filters and drinking fountains.
- Turn off water service valves to produce-misting machines.
- Discard any ice produced after the disaster strikes.
- Do not rely on the quality of water obtained from vending machines. It is not potable until properly treated.
- Listen to your radio for information regarding water safety.
- Contact the Environmental Health Division in your area for information regarding water safety.
- Use commercially bottled water for drinking and food preparation.
- Use single-service utensils and dishware to reduce water needs.
- Maintain a supply of bottled or treated water for everyday needs.
- Continue these steps until notified by the health department or local water agency/department that water is safe to drink.
- Discontinue use of all equipment directly connected to the water source (e.g., dishwashers, produce misters, pre-rinse sprayers).



*If there is a possibility of water contamination. . .*

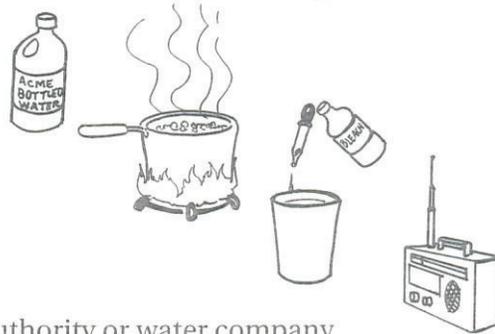
## **DON'T USE THE WATER:**

- For cooking.
- For drinking.
- From drinking fountains.
- From coffee machines.
- From soda machines.
- From ice machines (including ice).
- From vending machines.
- For cleaning.
- For dishwashers.
- For flushing booster heaters.



## **DO USE WATER IF:**

- It is commercially bottled.
- It has been boiled.
- It has been treated properly with a sanitizing solution.
- It has been determined to be safe by the health authority or water company.



## **IF YOU TREAT THE WATER YOURSELF, BE CAREFUL !!!**

- There is no way to predict how much water you will need during an emergency.
- The amount of water needed will depend on the type and impact of the disaster.
- Sanitization process must be done properly to be effective.
- Keep water for food preparation or drinking safe from contamination.
- Store treated water in clean, non-corrosive, opaque plastic containers and cover tightly.

***UNTREATED WATER CAN BE USED FOR CLEANING THE EXTERIOR OF YOUR ESTABLISHMENT AND FLUSHING OF TOILETS ONLY!!!***

# WATER: TREATMENT



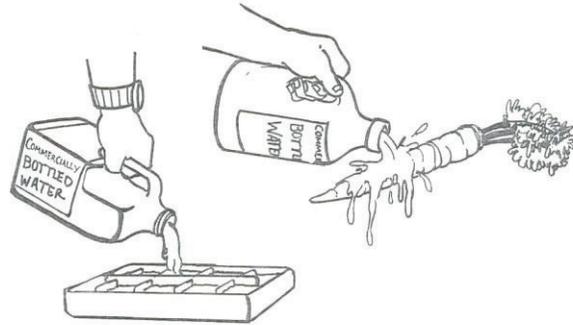
*Use only commercially bottled water for...*

## COOKING:

- Use it to prepare soups and sauces.
- Use it to wash produce.
- Use it to store partially prepared produce.

## DRINKING:

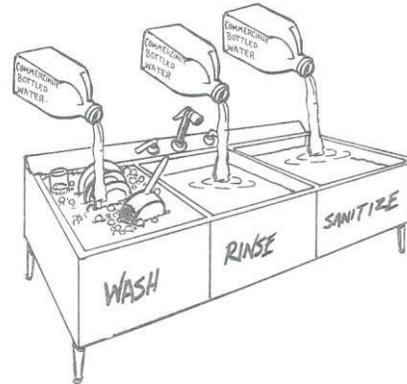
- Use it to prepare beverages.
- Use it to prepare ice.



*Treated or bottled water may be used for...*

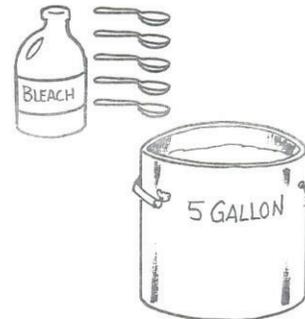
## DISHWASHING (INCLUDING BAR AREAS):

- Wash dishes, utensils, glassware and cookware with detergent.
- Rinse with water that has been boiled.
- Sanitize with chlorinated sanitizing solution.
- Air dry.

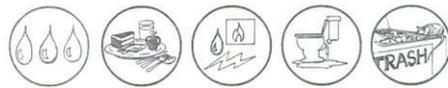


## HANDWASHING:

- Use 5-gallon container of cool water.
- Add 5 tablespoons of chlorine bleach.
- Rinse hands in a container of cool, treated water.



# WATER: TREATMENT



## HOW TO SANITIZE WATER:

### BOILING:



Boil water for at least 1 minute. Add one additional minute of boiling time for each additional 1,000 feet of elevation above sea level.

### PURIFICATION TABLETS:



Use purification tablets when available. Tablets may be obtained from most drug, grocery and sporting good stores. Follow directions on the package. If tablets are not available, follow steps below for bleach purification.

### BLEACH PURIFICATION



Use only liquid household bleach (5.25% sodium hypochlorite). See table below for the amount of bleach to add. Mix or shake thoroughly and let stand for 30 minutes. A slight chlorine odor should be detectable in the water. If not, repeat the dosage and let stand for an additional 15 minutes before using.

***To produce the desired amount of sanitized water, add the following amounts of bleach to the water.***

Amount of water	If clear water, add:	If cloudy water, add:
1 quart	2 drops	4 drops
1 gallon	8 drops	16 drops
5 gallons	1/2 teaspoon	1 teaspoon
50 gallons	1 tablespoon (3 teaspoons)	2 tablespoons
100 gallons	1 ounce (2 tablespoons)	2 ounces

***Follow instructions carefully for bleach purification of water to be effective.***

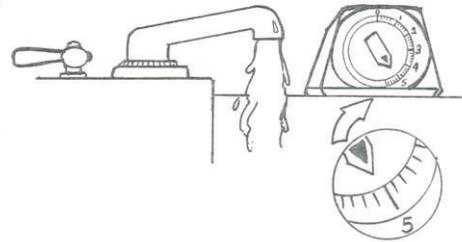
# WATER: RESTORATION



*When potable water is available, all equipment connected to the main water source must be made safe. It is important to . . .*

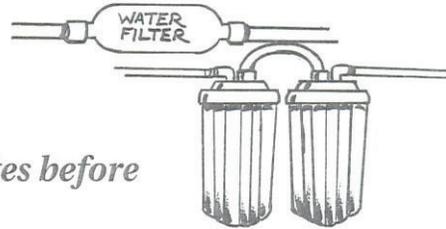
## **FLUSH ALL WATER LINES, PRE-RINSE SPRAYERS, AND HOSE REELS:**

- Turn on all faucets.
- Allow both hot and cold water to run through lines approximately 5 minutes (Cold water is sufficient for produce-cleaning and misting equipment only).



## **REPLACE ALL WATER FILTERS AND PURIFIERS:**

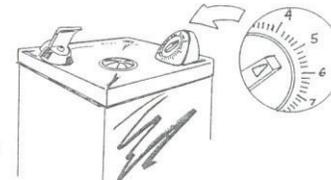
- Change source water filter in coffee makers.
- Change source water filter in ice machines.
- Change activated carbon canister filters in carbonated beverage machine.
- Change beverage cartridges.



***NOTE:** Run water through unit for 5 minutes before using equipment*

## **FLUSH ALL DRINKING FOUNTAINS:**

- Start water flow.
- Allow water to flow for 5 minutes.



## **FLUSH COFFEE MAKERS:**

- Pour 2 pots of potable water through reservoir of coffee maker.
- Discard rinse water.

## **FLUSH DISHWASHERS AND BOOSTER HEATER TANKS:**

- Contact your dishwasher service technician.

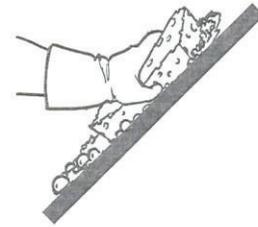
## **FLUSH ICE MACHINES:**

- Contact your ice machine service technician.
- Do not use unit until flushing has been completed.



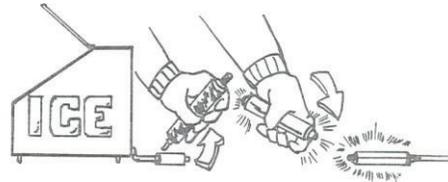
## **CLEAN AND SANITIZE EXTERIOR SURFACES OF ALL UNITS CONNECTED TO THE MAIN WATER SOURCE:**

- Use approved sanitizer (e.g., diluted chlorine).
- Clean exposed surfaces (e.g., faucets, sinks, drinking fountains, etc.).



## **CLEAN AND SANITIZE ALL INTERIOR SURFACES OF CARTRIDGE-TYPE WATER FILTER UNITS:**

- Disconnect water lines to and from unit.
- Remove cartridge and discard.
- Use a chlorine sanitizing solution to clean interior surfaces of unit.
- Rinse with potable water.
- Install a fresh cartridge.
- Reconnect water lines to and from unit.



## **CLEAN AND SANITIZE INTERIOR SURFACES OF WATER SOFTENERS:**

- Contact your distributor on recommendations on flushing/sanitizing procedure.
- Follow the manufacturer's instructions.



# FOOD: KEY WORDS



**FOOD TEMPERATURE DANGER ZONE:** Temperature range of food which can allow germs to grow (between 41°F and 140°F.)

**FOODBORNE ILLNESS:** Diseases spread by food

**HIGH RISK FOODS:** Foods that are especially prone to germ growth

**PROBE THERMOMETER:** An instrument used to measure internal temperatures of foods

**COLD STORAGE FACILITY:** Warehouse or other site that has a large freezer capacity

**AFFECTED FOODS:** Foods that have been made unsafe

**PACKAGED FOODS:** Prepared foods stored in sealed plastic bags and/or boxes for preservation

**CANNED FOODS:** Foods that are sealed inside cans for preservation

**BOTTLED FOODS:** Foods and drinks sealed in plastic or glass containers

**JARRED FOODS:** Foods sealed in glass or plastic jars

**PREPACKAGED FOODS:** Ready to eat foods that are packaged in bags or wrappers

**LID LIPS:** The raised edges of can lids

**SIDE SEAMS:** Seams where the ends of the can panel meet

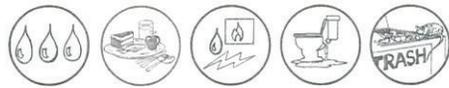
**CLEAR WATER:** Water that may carry impurities but is not discolored

**WASTE WATER:** Liquid drainage from any fixture that does not contain fecal matter (e.g., sink drain line, refrigeration drain line, etc.)

**SEWAGE:** Water from the sewer lines of toilet rooms which contain human waste

**GOOD FOOD QUALITY:** Food which has not lost its freshness

**FILM:** A fine, thin layer or coating



## **IF REFRIGERATION AND FREEZER UNITS ARE FUNCTIONING:**

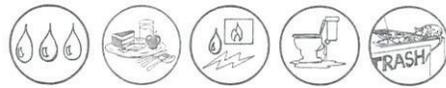
- Identify foods that have been within the danger zone (between 41°F and 140°F) for 4 hours or more.
- Check high risk foods with an easy to read probe thermometer. Sanitize thermometer with alcohol swab or chlorine solution after each food temperature measurement.
- Identify high risk foods that are at or below 41°F. (These foods are considered to be safe for human consumption.)

## **IF REFRIGERATION AND FREEZER UNITS ARE NOT FUNCTIONING:**

- Keep the doors closed to maintain coldest temperatures, until power is restored, if at all possible.
- Consider transporting high risk foods to an approved operational cold storage facility (such as a facility not affected by a power loss, or a refrigeration truck or ice chest).
- Pack high risk foods with clean, uncontaminated ice and/or dry ice if doors have been opened. Re-close doors.

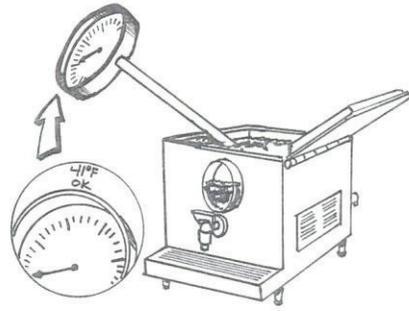
## **IF THERE IS A SUSPICION THAT REFRIGERATION AND FREEZER UNITS HAVE BEEN NONFUNCTIONAL:**

- Identify foods that have been in the danger zone (between 41°F and 140°F) for 4 hours or more.
- Check high risk foods with an easy to read probe thermometer. Sanitize thermometer with alcohol swab or chlorine solution after each use.
- Do not refreeze foods that have been defrosted.
- Separate affected foods from foods determined to be safe and store in separate area for evaluation.



## IF REFRIGERATED DESSERT MACHINES ARE FUNCTIONING:

- Check temperature of refrigerated dessert mix (e.g., ice cream, yogurt and slush).
- Identify mix that has been above 41°F for 4 hours or more. Remove mix from unit and discard.
- Thoroughly clean and sanitize all parts of the unit which have been in contact with the contaminated mix.
- If mix has been measured at 41°F or below, it can be considered safe and usable.

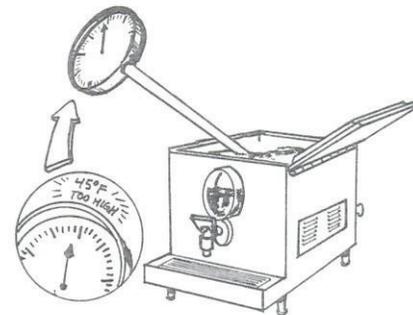


## IF REFRIGERATED DESSERT MACHINES ARE NOT FUNCTIONING:

- Check temperature of mix stored inside unit.
- Remove all mix if temperature is found above 41°F.
- Thoroughly clean and sanitize all parts of the unit which have come into contact with the contaminated mix.
- Do not use until temperatures of 41°F or below can be maintained.

## IF THE DESSERT MIX STORED INSIDE REFRIGERATED UNITS HAS BEEN FOUND OUT OF TEMPERATURE FOR MORE THAN 4 HOURS:

- Contact your insurance company for instructions on possible recovery costs of damaged products.
- Properly dispose of damaged products after all actions by the insurance company have been taken.
- Properly dispose of damaged products if recovery of cost is not possible.



# **FOOD:** REFRIGERATED



---

## **IF FOODS STORED INSIDE REFRIGERATION AND FREEZER UNITS HAVE BEEN FOUND OUT OF TEMPERATURE FOR 4 HOURS OR MORE:**

- Contact insurance company for instructions on possible recovery costs of damaged food.
- Properly dispose of damaged food after all actions by the insurance company have been taken.
- Properly dispose of damaged food if recovery of cost is not possible.

**HIGH RISK FOODS FOUND OUT OF TEMPERATURE MUST NOT BE OFFERED FOR HUMAN CONSUMPTION !!!**

**When in doubt,  
throw it out.**



TO MAINTAIN FOOD SAFETY, REMEMBER THE FOLLOWING:

**AVOID THE FOOD TEMPERATURE DANGER ZONE — (41°F- 140°F).**

- The growth of bacteria is responsible for most foodborne illness (food poisoning).
- Do not allow high risk foods to remain out of temperature for more than 4 hours.
- Refrigerate or chill high risk foods at 41°F or below.
- High risk foods that are to be served hot must be maintained at 140°F or above.
- High risk foods which are to be reheated and served hot must be heated to 165°F or above and then maintained at 140°F or above prior to serving.
- To reduce the chances of spreading foodborne illness to the public, discard all foods which have remained out of temperature for 4 hours or more.

#### LIST OF HIGH RISK FOODS

- *Beef*
- *Pork*
- *Imitation seafood*
- *Seafood*
- *Cooked rice*
- *Soft cheeses (e.g., ricotta, feta, cottage cheese)*
- *Products containing meat juices (e.g., gravies, soups)*
- *Custards*
- *Baked potatoes*
- *Poultry*
- *Lamb*
- *Ice cream or ice milk*
- *Dairy Products (e.g., milk, eggs)*
- *Cooked or processed bean products (e.g., refried beans, tofu)*

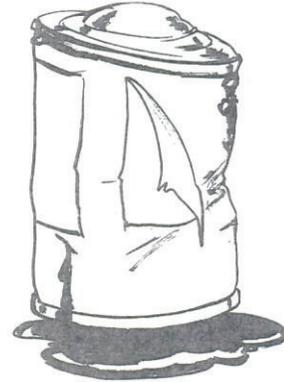
# FOOD: DAMAGED



*Canned, bottled foods and unprotected produce can be damaged and cause significant problems as a result of a disaster. Prepackaged foods also need special attention . . .*

## CHECK CANNED GOODS FOR:

- Contact with liquid waste, sewage, chemicals, clear water or floodwater (even clear water can be contaminated).
- Contact with dust, debris or chemicals.
- Missing labels.
- Severely or sharply dented side panels of can.
- Dented lids.
- Damaged lid lips.
- Rust on lids and side seams.
- Bulging at lids or sides.
- Separation at lid surfaces.
- Separation at body seams.
- Leaks or punctures.



## CHECK BOTTLES AND JARS FOR:

- Loose lids or caps.
- Breaks, chips, or cracks.
- Damaged seals.
- Leaks.
- Damaged or missing labels.
- Contact with liquid waste, sewage, chemicals, clear water or floodwater (even clear water can be contaminated).
- A foul odor upon opening container.

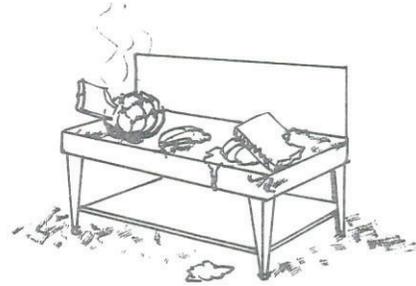


# FOOD:



## CHECK PRODUCE FOR:

- Residue or films.
- Physical damage.
- Foreign matter.
- Contact with, liquid waste, sewage, chemicals, clear water or floodwater (even clear water can be contaminated).
- Foul odor.
- Spoilage.



*If items are found with these types of damages, they are not to be sold or given away to the public . . .*

## DO:

- Separate damaged foods from foods unaffected by contamination and store in a separate area.
- Contact your insurance company on possible recovery cost of damaged foods.
- Contact a licensed food salvager for evaluation and review.

## DO NOT:

- Return damaged product to shelves.
- Attempt to repair damaged containers.
- Replace ripped, torn or missing labels.
- Store spoiled or damaged produce for more than 7 days.

# FOOD: DAMAGED



## CHECK PREPACKAGED FOODS FOR:

- Torn, ripped or opened packaging.
- Residue or film build-up on packaging.
- Physical damage of product.
- Contact with liquid waste, sewage chemicals, clear water or floodwater (even clear water can be contaminated).

## TESTING PREPACKAGED FOODS FOR DAMAGE:

- Select a few prepackaged items from each shelf as samples.
- Open samples and inspect for evidence of smoke, foreign matter or spoilage. Discard samples after inspection.
- If samples show evidence of contamination or product spoilage within the packaging, remove all of the packages on that shelf and hold for evaluation by a licensed food salvager.
- If samples do not show any contamination of product, but show a substance build-up that is easily cleanable, clean the remaining shelf contents using only water and paper towels. Change paper towels often.
- Continue this procedure throughout the prepackaged food section(s).

## DO:

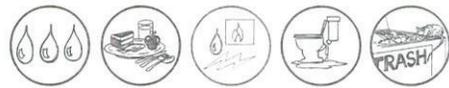
- Separate damaged foods from foods unaffected by contamination and store in a separate area.
- Contact your insurance company on possible recovery of cost of damaged canned foods.
- Contact a licensed food salvager for evaluation and review.

## DO NOT:

- Return damaged product to shelves.
- Attempt to repair damaged packaging.
- Replace ripped, torn or missing labels.

# UTILITIES: KEY WORDS

---



**MAIN UTILITIES:** Electricity, water, and natural gas

**MAIN SHUT OFF VALVE:** Valve used to turn off the main water or natural gas lines to the building

**WATER:** Tap water supplied by pipes

**GAS:** Natural gas, supplied by lines

**POWER:** Electricity supplied by power companies

# UTILITIES: WATER, GAS AND POWER



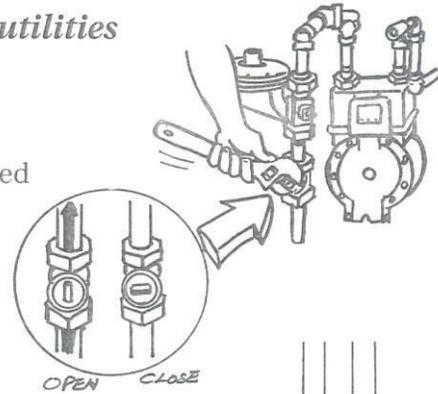
*It is important to know how to shut off the main utilities in your restaurant . . .*

## NATURAL GAS:

- Store wrench near the main shut-off valve which is located next to the meter on the inlet pipe.
- Use the wrench and give the valve a quarter turn in either direction.

### *Shut off natural gas when:*

- The gas pipes are broken or severely bent.
- There is an obvious leak as evidenced by a detectable odor. The odor which has been added to natural gas makes leaks easily detectable.

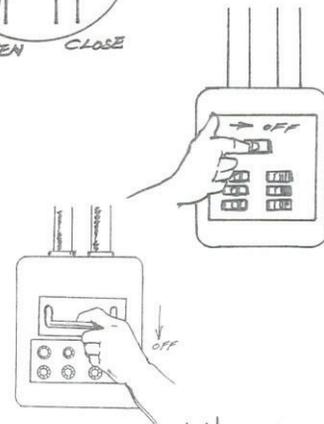


## ELECTRICITY:

- Turn off switches in fuse or panel box.

### *Shut off electricity when:*

- There is a gas leak.
- There is an observed short circuit.
- There are obvious signs of major damage.

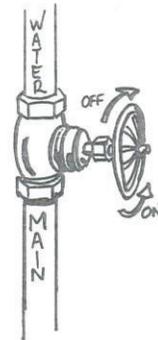


## WATER:

- Locate main shut-off valve which is normally located where water enters the building.
- Turn the knob on the main shut off valve clockwise.

### *Shut off water when:*

- Water lines break.
- Water lines begin to leak heavily.



# SEWAGE: KEY WORDS

---



**SEWAGE:** Water from the sewer lines of toilet rooms which contain human waste

**DISINFECT:** Removal of germs

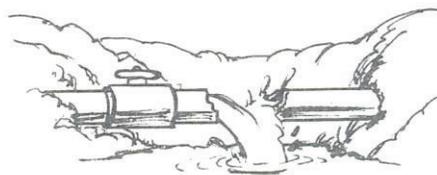
**DISINFECTING SOLUTION:** A diluted bleach solution of 2 ounces of bleach in 5 gallons of potable clear water

**WASTE WATER:** Drainage from any fixture that does not contain fecal matter (e.g., sink drain line, refrigeration drain line, etc.)

# SEWAGE: DISCHARGE



*In the event of a large disaster, sewer lines may be broken and sewage may back up inside the establishment and/or overflow onto the premises. This causes potential health risks including the transmission of diseases to humans. If the sewer line has been ruptured or broken . . .*



## DISCONTINUE FOOD SERVICE ! ! !

### DO:

- Isolate and contain sewage discharges outside the establishment.
- Disinfect and sanitize all food service equipment and multi-use utensils.
- Dispose of any food, cans, or bottles contaminated by the sewage.
- Use disinfecting solution for the control of odors.
- Avoid contact with waste water or sewage.

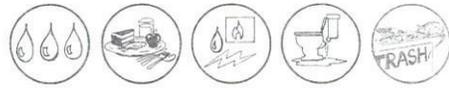
### DO NOT:

- Use toilet facilities.
- Allow waste water discharge from the facility.
- Wash or reuse any contaminated food, bottles or cans.

In the event of ruptured sewer lines and delayed sewer services, portable toilets may be rented for temporary use. The portable toilets must be placed outside of the facility and away from any food, **and must be approved by the local Health Department.**

# REFUSE: KEY WORDS

---



**DEBRIS:** Unusable materials such as broken glass, damaged boxes, broken plates, ceiling tiles, etc.

**DISEASE TRANSMISSION:** The spread of disease

**TIGHT FITTING LIDS:** Lids which fit tightly over trash containers to keep out insects, rodents and stray animals

**HAZARDOUS MATERIALS:** Items such as solvents, paints, cleaning products, etc.

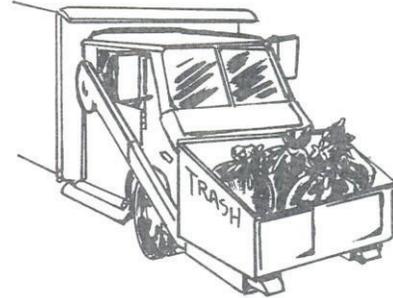
# REFUSE: TRASH AND GARBAGE



*After a disaster, a heavy volume of trash and garbage can be expected. Discarded foods, debris from damage, and discarded matter can clog streets and cause a sanitation nightmare. These conditions lead to potential health risks to the community. Rodent and fly populations can increase and the potential for disease transmission may reach dangerous levels. These problems could be minimized by . . .*

## **PROPER DISPOSAL OF TRASH AND GARBAGE:**

- Place all discarded foods in plastic trash bags.
- Do not over-fill trash bags.
- Securely tie the top of the bag to prevent spillage, control odors, and prevent rodent and flies from entering bags.
- Place secured bags into dumpsters or trash cans that have tight fitting lids.
- Separate all hazardous materials and chemicals.
- Contact your trash company for help in disposal of hazardous materials.

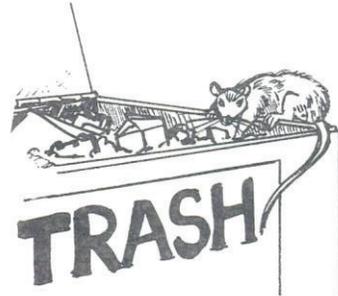


**• DO NOT MIX HAZARDOUS MATERIALS WITH OTHER TRASH !!!**

## **Monitoring your trash storage:**

### **DO:**

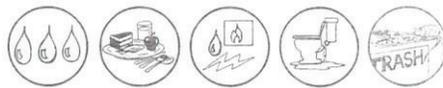
- Keep trash containers tightly covered to keep flies and rodents out.
- Make arrangements with your trash company if a heavy volume of trash has been or is expected to be collected.



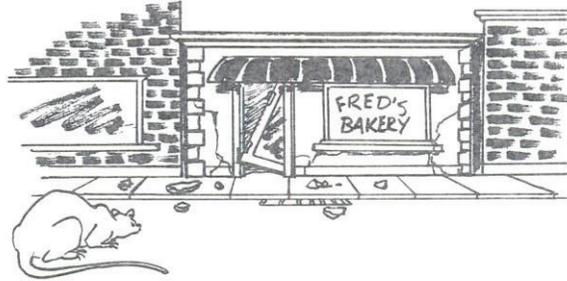
### **DO NOT:**

- Allow trash to accumulate outside of dumpsters.

# REFUSE: UNWELCOME GUESTS



*After a disaster, animals and insects can become unwelcome guests of a food establishment. Household pets, stray animals, and common pests may suddenly appear around food establishments seeking food, water, and shelter. These unwelcome guests can damage foods or contaminate food supplies, spread diseases, and create sanitation problems. To prevent these problems from occurring...*



## DO:

- Seal holes and openings where they may enter the establishment.
- Store all items within the establishment at least 6 inches above the floor.
- Maintain the premises in a clean and sanitary manner.
- Watch for new or increased rodent or insect activity inside the establishment.
- Place all bagged trash and garbage into trash containers with tight fitting lids or into covered dumpsters.
- Store all items at the exterior of the establishment at least 18 inches above the ground.
- Contact your trash company to remove piles of debris.

## DO NOT:

- Allow trash, garbage, and cast off materials to accumulate.
- Allow water to accumulate and stand outside establishment.
- Place food outside of establishment for animals and others to eat.
- Encourage animals to gather or stay at your establishment.

# ACKNOWLEDGEMENTS:

---

Ante's Tony Perkov	Foreign Disaster Assistance Dennis King	Los Angeles County Department of Health Services Public Information Toby Staheili	Seven Up Company Ed Davis Ed Kellman Jan Olesniewicz
Ara's Pastry Nasri Daou Jamal Khalil	Franks Nurseries & Flowers Robert Goka	Los Angeles County Department of Public Works Mapping and Property Management Allan Abramson	Southern California Edison Sheila Hartley
California Department of Health Services Susan Bond Dr. Chang-Rae Lee	H & H Environmental Consultants Robert Hammond	Los Angeles County Forester and Fire Warden Karen Dodson	Spudnuts Donuts Lucy Torres
Coca Cola USA Ken Guinner William Hope	Jack-In-The-Box Restaurants Paul Frank	Los Angeles Regional Food Bank Ed J. Dugas	Teri Hawaii Harriet Yonekawa
Concessions International Ray Anciano	Kizzy's Back Porch Adolph and Mary Dulan	Louisiana State Office of Emergency Preparedness Henry Bacque	Texas Bureau of Environmental Health Sam Wilson
Courtyard Cafe Robert Aguilar	La Chispa Ric Castaneda	Maison Wang Restaurant David Wang	T. G. I. Fridays George Gonzalez
Dales Market Al Burke	Lorri's Raymond Ikeda	Marriott Host Bob Elling	The American RedCross
Danny's John Cusumano	Los Angeles City Department of Building and Safety Steve Ikkanda	Mrs. Garcia's John H. Lee	The Food Distributors Mutual Aid Council Janet Workman Gorman
Department of Environmental Health Atlanta, Georgia Janet Adams	Los Angeles County Department of Health Services Acute Communicable Disease Control Dr. David E. Dassey	Mrs. Gouch's Greg Gomillion Dave Gonzalez Chris Tasevski	The Gas Co. Fil Albino Mike Marshall
Earthquake Preparedness Society Tom Brown	Los Angeles County Department of Health Services Environmental Health Oscar Castro Michael Griego Frank Gomez Richard Harris Paul Husson Pat Jocas Jack Petralia Terrance Powell Kenneth Sakurai Arthur Tilzer Sheila Woods	Omni Temp Refrigeration Hanns Hassis	Water Inc. Jon Wilson Major Avignon
Ernie's Deli Greg Currier		Pepsi Cola Company Bob Haws	
Florida Bureau of Environmental Health Walter Livingston		Pest Control Operators of Southern California Eric Paulsen	
Food Service Advisory Committee Fil Albano Beth Beeman Gerald Breitbart Robert Hammond Bruce Hicks Roy Hodak Paul Hughes Winifred Kovac Edward Landis		Santa Clarita Water Company Dennis Rolfe	